DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2012–0082]

[4500030114]

RIN 1018–AY20

Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Comal Springs Dryopid Beetle, Comal Springs Riffle Beetle, and Peck's Cave Amphipod

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), revise the critical habitat for the Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs

riffle beetle (*Heterelmis comalensis*), and Peck's cave amphipod (*Stygobromus pecki*), under the Endangered Species Act of 1973, as amended. In total, we are designating approximately 169 acres (68 hectares) as revised critical habitat. The revised critical habitat consists of four units in Comal and Hays Counties, Texas.

DATES: This rule is effective on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: This final rule is available on the internet at *http://www.regulations.gov* and *http://www.fws.gov/southwest/es/austintexas/*. Comments and materials we received, as well as some supporting documentation we used in preparing this rule, are available for public inspection at *http://www.regulations.gov*. All of the comments, materials, and documentation that we considered in this rulemaking are available by appointment, during normal business hours at: U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, 10711 Burnet Road, Suite 200, Austin, TX 78758; telephone 512–490–0057; facsimile 512–490–0974.

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this revised critical habitat designation and are available at *http://www.fws.gov/southwest/es/austintexas/*, at *http://www.regulations.*gov at Docket No. FWS–R2–ES–2012–0082, and at the Austin Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**). Any additional tools or

supporting information that we may develop for this critical habitat designation will also be available at the Fish and Wildlife Service website and field office set out above, and may also appear at *http://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Adam Zerrenner, Field Supervisor, U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, 10711 Burnet Road, Suite 200, Austin, TX 78758; telephone at 512–490–0057, extension 248; or facsimile at 512–490–0974. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. This is a final rule to designate revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. Under the Endangered Species Act of 1973, as amended (Act), any species that is determined to be an endangered or threatened species requires critical habitat to be designated, to the maximum extent prudent and determinable. Designations and revisions of critical habitat can only be completed by issuing a rule.

The areas we are designating as revised critical habitat in this rule constitute our

current best assessment of the areas that meet the definition of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. Here, we are designating:

- Comal Springs dryopid beetle: 39.4 acres (ac) (15.56 hectares (ha)) of surface and 139 ac (56 ha) of subsurface critical habitat. The original designation was surface critical habitat of 39.5 ac (16.0 ha) without subsurface.
- Comal Springs riffle beetle: 54 ac (22 ha) of surface critical habitat only. The original designation was surface critical habitat of 30.3 ac (12.3 ha).
- Peck's cave amphipod: 38.4 ac (15.16 ha) surface and 138 ac (56 ha) of subsurface critical habitat. The original designation was surface critical habitat of 38.5 ac (15.6 ha) without subsurface.

We have prepared an economic analysis of the designation of critical habitat. In order to consider economic impacts, we have prepared an analysis of the economic impacts of the revised critical habitat designations and related factors. We announced the availability of the draft economic analysis (DEA) in the **Federal Register** on May 2, 2013 (78 FR 25679), allowing the public to provide comments on our analysis. We have incorporated the comments and have completed the final economic analysis (FEA) concurrently with this final determination.

Peer review and public comment. We sought comments from independent specialists to ensure that our designation is based on scientifically sound data and analyses. We

obtained opinions from two knowledgeable individuals with scientific expertise to review our technical assumptions and analysis, and to determine whether or not we had used the best available information. These peer reviewers generally concurred with our methods and conclusions, and provided additional information, clarifications, and suggestions to improve this final rule. Information we received from peer review is incorporated in this final revised designation. We also considered all comments and information we received from the public during the comment periods.

Previous Federal Actions

We listed the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod as endangered species on December 18, 1997 (62 FR 66295). We designated critical habitat for these three species on July 17, 2007 (72 FR 39248). On October 19, 2012 (77 FR 64272), we proposed to revise critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod.

All other previous Federal actions are described in the October 19, 2012, proposed rule (77 FR 64272) to revise critical habitat for Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod.

Summary of Comments and Recommendations

We requested written comments from the public on the proposed revision of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod during two comment periods. The first comment period, associated with the publication of the proposed rule (77 FR 64272), opened on October 19, 2012, and closed on December 18, 2012. We also requested comments on the proposed revised critical habitat designations and associated draft economic analysis during a comment period that opened May 2, 2013, and closed on June 3, 2013 (78 FR 25679). We did receive one request for a public hearing. We held a public hearing on May 17, 2013, in San Marcos, Texas. We also contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule and draft economic analysis during these comment periods.

During the first comment period, we received five comment letters, two from peer reviewers, one from a State agency, and two from the public, directly addressing the proposed revised critical habitat designations. During the second comment period, we received two comment letters addressing the proposed critical habitat designations or the draft economic analysis. During the May 17, 2013, public hearing, three individuals made comments on the designation of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. All substantive information provided during comment periods has either been incorporated directly into this final designation or is addressed below. Comments we received are addressed in the

following summary and incorporated into the final rule as appropriate.

Peer Review

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from eight knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received responses from two of the peer reviewers.

We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. The peer reviewers provided additional information, clarifications, and suggestions to improve this final critical habitat rule. Peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

(1) *Comment*: One peer reviewer and several commenters suggested that we extend the size of surface and subsurface critical habitat units to incorporate recharge features, subterranean habitats, drainage basins, flow routes, springsheds, and the extent

of the aquifer.

Our Response: We have reviewed the available information and have determined that there is not enough information to support a modification to our designation of the area within 50 feet (ft) (15 meters (m)) of spring outlets as surface critical habitat for all three species, and within 360 ft (110 m) of spring outlets as subsurface critical habitat for the Peck's cave amphipod and Comal Springs dryopid beetle. Based on the definition of critical habitat in the Act (16 U.S.C. 1531 *et seq*.), we may designate critical habitat in those areas within the geographical area occupied by the species at the time it was listed if the areas contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. In addition, we may designate critical habitat in areas that were not occupied at the time of listing if they are essential to the conservation of the species. We used a distance of 50 ft (15 m) for surface critical habitat because this distance has been found to contain food sources where plant roots interface with water flows of the spring systems. We used 360 ft (110 m) to define subsurface critical habitat for the Peck's cave amphipod and Comal Springs dryopid beetle because this is the greatest distance from spring outlets that these species have been collected. We have no information upon which to base a larger or different extent of critical habitat for these species because our designation includes the known historical range of the species. While other areas outside the designation (such as recharge features, subterranean habitats, drainage basins, flow routes, springsheds, and the entire aquifer) may be

important because they support the physical or features needed by these species, these areas do not constitute the actual habitat for the species. These areas outside of the designated critical habitat would still be subject to section 7 consultations, if a proposed Federal action in these areas may affect the listed species or its critical habitat. In this way, these important areas receive some protections to allow for their conservation and support of the physical and biological features of the designated critical habitat. Therefore, as required by section 4(b)(2) of the Act, we used the best scientific data available to designate critical habitat and limit the designation to the actual areas meeting the definitions under section 3(5)(A) of the Act.

Comments from Texas State Agencies

(2) *Comment*: The 360-ft (110-m) buffer for subsurface critical habitat likely does not fit the actual area of subterranean habitats, aquifer extent, and known conduits between significant groundwater resources important for these species' survival. In addition, the 50-ft (15-m) buffer for surface habitat should more accurately delineate the contribution of upstream areas (springshed) to surface habitat quality.

Our Response: Please see our response to Comment (1) above.

(3) *Comment*: The Panther Canyon Well is a known locality for two federally listed species and should be treated the same as other occupied sites. Specifically,

surface and subsurface critical habitat buffers should include the area surrounding this site. Information gathered from future dye trace studies may elucidate the approximate location of groundwater flow intersecting this well and guide delineation of a more defensible area of subterranean habitat than currently proposed.

Our Response: We agree that additional future dye trace studies could assist us in delineating subterranean habitat within the vicinity of Panther Canyon Well. However, we designate critical habitat in those areas known to be occupied by the species at the time of listing or that were not occupied at the time of listing if they are essential to the conservation of the species. In our review of the best available scientific data, we did not find any information to support a conclusion that any of the species occur outside the areas we are designating as revised critical habitat. In other words, we did not have any information that indicated that the species would be in areas farther from the spring source beyond Panther Canyon Well; therefore, we limited the designation to this extent. In addition, as we explained in the response to Comment (1) above, we found no additional areas outside of those occupied at the time of listing to be essential to the conservation of the species.

(4) *Comment*: The dye trace studies indicate that groundwater supplying Hueco Springs flows west to east. The subsurface critical habitat buffer should take this into account, minimally, by shifting the proposed critical habitat area westward to meet the eastern boundary of surface critical habitat.

Our Response: Although dye trace studies may indicate that the general direction of groundwater flow in the vicinity of Hueco Springs is from west to east, we are unaware of any scientific data that suggest that the movement of Peck's cave amphipods within subsurface habitat is limited by the direction of flow. Therefore, we did not change the critical habitat boundaries from what we proposed.

(5) *Comment*: The use of the "incremental" approach does not assess the total economic impacts of the proposed designation. The economic analysis describes impacts that could occur "without critical habitat," but it does not monetize these impacts. To fully evaluate the cost of the critical habitat designation, the Service must consider the full economic impact of the listing.

Our Response: The Office of Management and Budget's (OMB) guidelines for best practices concerning the conduct of economic analysis of Federal regulations direct agencies to measure the costs of a regulatory action against a baseline, which it defines as the "best assessment of the way the world would look absent the proposed action" (OMB, "Circular A–4," September 17, 2003). The baseline utilized in the economic analysis is the existing state of regulation, prior to the designation of critical habitat, which provides protection to the species under the Act, as well as under other Federal, State, and local laws and guidelines. As such, the analysis focuses on the incremental impacts of critical habitat designation over and above the expected baseline (i.e., endangered species status

under the Act). Section 1.3 of the economic analysis qualitatively describes baseline conservation efforts for the three invertebrate species that are currently implemented across the designation in order to provide context for the incremental analysis. In addition, Appendix A of the report provides a more detailed description of the methodological approach to the analysis.

(6) *Comment*: The economic analysis evaluates the costs and benefits of proposed critical habitat designations by comparing qualitative benefits to quantitative costs. To produce an accurate analysis, the costs and benefits must be in the same unit of measurement.

Our Response: Section A.3.3 of the economic analysis states that, "In its guidance for implementing Executive Order 12866, OMB acknowledges that it may not be feasible to monetize, or even quantify, the benefits of environmental regulations due to either an absence of defensible, relevant studies or a lack of resources on the implementing agency's part to conduct new research. Rather than rely on economic measures, we conclude that the direct benefits of the proposed rule are best expressed in biological terms that can be weighed against the expected cost impacts of the rulemaking."

Furthermore, as described in section 2.3 of the economic analysis, we do not anticipate that the designation of revised critical habitat for the three invertebrate species

will result in project modifications or additional conservation measures for the species. Absent changes in land or water management, no incremental economic benefits are forecast to result from this designation of revised critical habitat. However, the Service does anticipate that this rule will result in educational benefits to the public associated with increased awareness of habitat locations.

(7) *Comment*: The economic analysis is inconsistent with regard to the incremental impacts to other activities in the Hueco Springs and Fern Bank Springs Units. According to the economic analysis, no costs are attributed to future actions in these units. However, Exhibit 2–2 indicates costs attributed to other activities.

Our Response: Although no specific actions likely requiring consultation are expected in the Hueco Springs and Fern Bank Springs Units, minor costs associated with area-wide habitat conservation plans are attributed to those units. Section 2.2.2 of the economic analysis states, "re-initiation of several incidental take permits for HCPs in the region may occur as a result of critical habitat designation for the three invertebrate species… The costs of re-initiated consultations are assumed to be distributed equally across the four proposed critical habitat units."

Public Comments

(8) *Comment*: The boundary of proposed critical habitat unit 2 for the Comal

Springs dryopid beetle at Fern Bank Springs is based on a 360-ft (110-m) radius circle around the spring outlet. However, the cave from which the spring issues is known to extend at least 377 feet (115 m) to the southeast from the spring. The critical habitat unit should be extended at least 360 ft (110 m) beyond the point where the cave stream is known to extend.

Our Response: We designate critical habitat in those areas known to be occupied by the species at the time of listing or in areas that were not occupied at the time of listing if they are essential to the conservation of the species. All of the collections of Comal Springs dryopid beetle at Fern Bank Springs have occurred at spring outlets and orifices along the bluff adjacent to the main spring outlet. In our review of the best available scientific data, we did not find any evidence that the Comal Springs dryopid beetle occurs within the cave or cave stream at this location. We also did not find that the cave or cave stream is essential to the conservation of the species because these areas do not constitute the actual habitat for the species. Therefore, we limited our designation to 360 ft (110 m) from the where the species has been confirmed to occur.

(9) *Comment*: There is no justification for any critical habitat on the north side of the Blanco River at Fern Bank Springs, since the river has downcut considerably below the level of the spring. The area of importance to this spring is the recharge area, which likely consists of an extensive area to the southeast of the spring outlet

Our Response: We disagree that there is no justification for the designation of critical habitat on the north side of the Blanco River at Fern Bank Springs. The area of critical habitat that extends to the north side of the Blanco River is entirely subsurface. The best available data indicate that the Comal Springs dryopid beetle occurs within the aquifer at distances of 360 ft (110 m) from spring outlets. We are not aware of any information to support a conclusion that this species is limited in its ability to move through the aquifer in a particular direction. We agree that the recharge area is important for this spring; however, we have no data to indicate that the Comal Springs dryopid beetle population at this site occurs outside of the area we are designating as revised critical habitat. In addition, we found that areas outside the historic range, though important, do not constitute habitat for the species (see response to Comment (1) above).

Summary of Changes from Proposed Rule

After reviewing all of the comments we received, we made no substantive changes to this final rule compared to the proposed rule. In response to comments, we made some editorial corrections and clarifying revisions to this final rule.

Critical Habitat

Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse

modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical and biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds,

seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are the specific elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area currently occupied by the species but that was not occupied at the time of listing may be essential to the conservation of the species and may be included in the critical habitat designation. We designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its range would be inadequate to ensure the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the

use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) the prohibitions of section 9 of the Act if actions occurring in these areas may affect the species. Federally funded or permitted projects affecting listed

species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Physical or Biological Features

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we consider the physical or biological features that are essential to the conservation of the species and which may require special management considerations or protection. These include, but are not limited to:

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, or rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the

historical, geographic, and ecological distributions of a species.

We derive the specific physical or biological features essential for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod from studies of this species' habitat, ecology, and life history as described below. Additional information can be found in the final listing rule published in the **Federal Register** on December 18, 1997 (62 FR 66295), the previous critical habitat designation (72 FR 39248, July 17, 2007), the San Marcos and Comal Springs and Associated Aquatic Ecosystems (Revised) Recovery Plan (Service 1996), the Edwards Aquifer Recovery Implementation Program Habitat Conservation Plan (HCP) (RECON Environmental, Inc. *et al.* 2012), and the proposed revision of critical habitat designation (77 FR 64272, October 19, 2012). We have determined that the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod require the following physical or biological features:

Space for Individual and Population Growth and for Normal Behavior

Very little is known regarding the space needed by the three invertebrate species for individual and population growth and for normal behavior. The Peck's cave amphipod and Comal Springs dryopid beetle are most commonly found in subterranean areas where plant roots are inundated or otherwise influenced by aquifer water. Gibson *et al.* (2008, p. 77) found Peck's cave amphipod in gravel, rocks, and organic debris

(leaves, roots, wood) immediately inside of or adjacent to springs, seeps, and upwellings of Comal Springs and their impoundment, Landa Lake. The species were not observed in nearby surface habitats. Gibson *et al.* (2008, p. 76) collected Peck's cave amphipods in drift nets (a net that floats freely on surface water) that were placed over spring openings at Hueco and Comal Springs. At Panther Canyon Well, specimens were collected 59 ft (18 m) below the surface in a baited bottle trap, which is located about 360 ft (110 m) from Comal Spring Run No. 1 (Gibson *et al*. 2008, p. 76; R. Gibson 2012b, pers. comm.). Gibson *et al*. (2008, p. 77) also found Comal Springs riffle beetles in drift nets at Comal Springs that were placed in or over spring openings. Therefore, based on the information above, we identify springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings to be primary components of the physical or biological features essential to the conservation of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Food. Although specific food requirements of the three invertebrate species are unknown, potential food sources for all three invertebrate species include detritus (decomposed plant materials), leaf litter, and decaying roots. It is possible that the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod all feed on microorganisms such as bacteria and fungi associated with decaying riparian vegetation. Both beetle species likely are detritivores (detritus-feeding animals) that

consume detrital materials from spring-influenced riparian (associated with rivers, creeks, or other water bodies) zones (Brown 1987, p. 262; Gibson *et al*. 2008, p. 77). Riparian vegetation is likely important for these species, as they are typically found on roots where they feed on fungus and bacteria (Gibson *et al*. 2008, p. 77; Gibson 2012c, pers. comm.). The terrestrial larvae of the Comal Springs dryopid beetle, found in association with roots, debris, and soil lining the ceilings of subterranean cavities, are also presumed to feed on bacteria and fungi (Barr and Spangler 1992, p. 41). Available evidence suggests Peck's cave amphipod is likely an omnivore (consumes everything available including both animal and plant matter). It can feed as a scavenger or predator within the aquifer and as a detrivore where plant roots are exposed, providing a medium for microbial growth as well as a food source to potential prey (Gibson 2012a, pers. comm.). Among other things, trees and shrubs in riparian areas adjacent to the spring system provide plant growth necessary to maintain food sources such as decaying material for these invertebrates. Roots from trees and shrubs in proximity to spring outlets are most likely to penetrate underground down to the water pools, where these roots can serve as habitat for the amphipod and dryopid beetle.

Therefore, based on the information above, we identify sources of detritus (decomposed plant materials), leaf litter, and decaying roots of riparian vegetation to be primary components of the physical or biological features essential to the conservation of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod.

Water. The Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod are all spring-adapted, aquatic species dependent on high-quality, unpolluted groundwater that has low levels of salinity and turbidity. The two beetle species are generally associated with water that has adequate levels of dissolved oxygen for respiration (Brown 1987, p. 260; Arsuffi 1993, p. 18). High-quality discharge water from springs and adjacent subterranean areas help sustain habitat components essential to these three aquatic invertebrate species.

The temperature of spring water emerging from the Edwards Aquifer at Comal and San Marcos Springs ordinarily occurs within a narrow range of approximately 72 to 75 degrees Fahrenheit (°F) (22 to 24 degrees Celsius (°C)) (Fahlquist and Slattery 1997, pp. 3–4; Groeger *et al*. 1997, pp. 282–283). Hueco Springs and Fern Bank Springs have temperature records of 68 to 71 °F (20 to 22 °C) (George 1952, p. 52; Brune 1975, p. 94; Texas Water Development Board 2006, p. 1). The three listed invertebrate species complete their life-cycle functions within these relatively narrow temperature ranges.

Landa Lake, Spring Lake, Hueco Springs, and Fern Bank Springs typically provide adequate resources to sustain life-cycle functions for resident populations of the Comal Springs dryopid beetle, Comal Springs riffle beetle, or Peck's cave amphipod. However, a primary threat to the three invertebrate species is the potential failure of spring flow due to drought or groundwater pumping, which could result in loss of aquatic

habitat for the species.

Barr (1993, p. 55) found Comal Springs dryopid beetles in spring flows with low- and high-volume discharge and suggested that presence of the species was not necessarily dependent on high spring flow. However, Barr (1993, p. 61) noted that effects on both subterranean species (dryopid beetle and amphipod) from extended loss of spring flow and low aquifer levels could not be predicted because details of their life cycles and their subterranean distributions are unknown.

Riffle beetles are most commonly associated with flowing water that has shallow riffles or rapids (Brown 1987, p. 253). Riffle beetles are restricted to waters with high dissolved oxygen due to their reliance on a plastron (thin sheet of air held by water-repellent hairs of some aquatic insects) that is held next to the surface of the body by a mass of water-repellent hairs. The mass of water-repellent hairs functions as a physical gill by allowing oxygen to passively diffuse from water into the plastron in order to replace oxygen absorbed during respiration (Brown 1987, p. 260). However, slow-moving insects like riffle beetles are limited to habitats with high oxygen levels because oxygen will diffuse away from the beetle if concentrations are higher in the plastron than in the surrounding water (Resh *et al.* 2008, pp. 44–45).

Bowles *et al*. (2003, p. 379) pointed out that the mechanism by which the Comal Springs riffle beetle survived the 1950s drought and the extent to which its population

was negatively impacted are unknown. Bowles *et al*. (2003, p. 379) speculated that the riffle beetle may be able to retreat back into spring openings or burrow down to the hyporheos (groundwater zone) below the stream channel. In reference to the Comal Springs population of the riffle beetle, Bowles *et al*. (2003, p. 380) stated that "Reductions in water levels in the Edwards Aquifer to the extent that spring-flows cease likely would have devastating effects on... [this] population of this species and could result in its extinction."

Therefore, based on the information above, we identify unpolluted, high-quality water with stable temperatures flowing through subterranean habitat and exiting at spring openings to be primary components of the physical or biological features essential to the conservation of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod.

Habitats Protected from Disturbance or Representative of the Historical, Geographic, and Ecological Distributions of the Species

These freshwater invertebrates rely on spring water that follows established hydrological flow paths within a limestone aquifer before emerging. Water inside limestone aquifers flows through fractures, pores, cave stream channels, and conduits (open channels) that have been hollowed out within the limestone by dissolution processes (White 1988, pp. 119–148, 150–151). Alteration of subsurface water flows

through destruction of geologic features (for example, excavation) or creation of impediments to flow (for example, concrete filling) in proximity to spring outlets could negatively alter the hydraulic connectivity necessary to sustain these species. Areas of subsurface habitat must remain intact to provide adequate space for feeding, breeding, and sheltering of the two subterranean species (amphipod and dryopid beetle). In addition, subsurface habitat must remain intact with sufficient hydraulic connectivity of flow paths and conduits to ensure that other constituent elements (water quality, water quantity, and food supply) for the revised critical habitat remain adequate for all three listed invertebrates.

Comal Springs riffle beetles occur in conjunction with a variety of bottom substrates that underlay these flow paths. Bowles *et al*. (2003, p. 372) found that these beetles mainly occurred in areas with gravel and cobble ranging between 0.3 to 5.0 in (inches) (8 to 128 millimeters (mm)) in diameter and did not occur in areas dominated by silt, sand, and small gravel. Collection efforts in areas of high sedimentation generally do not yield riffle beetles (Bowles *et al*. 2003, p. 376; Gibson, 2012d, pers. comm.).

Therefore, based on the information above, we identify spring water that follows established hydrological flow paths within a limestone aquifer to be a primary component of the physical or biological features essential to the conservation of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod.

Primary Constituent Elements for the Comal Springs Dryopid Beetle, Comal Springs Riffle Beetle, and Peck's Cave Amphipod

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of the three invertebrates in areas occupied at the time of listing, focusing on the features' primary constituent elements. We consider primary constituent elements to be the elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent elements specific to the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod are:

(1) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(a) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(b) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer.

(2) Spring system water temperatures that range from 68 to 75 °F (20 to 24 °C).

(3) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

With this designation of revised critical habitat, we intend to identify the physical or biological features essential to the conservation of the species, through the identification of the features' primary constituent elements sufficient to support the life-history processes of the species. All revised critical habitat units are currently occupied by one or more of the three invertebrates and contain the primary constituent elements sufficient to support the life-history needs of the species.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographic area occupied by the species at the time of listing contain features that are essential to the conservation of the species and which may require special management considerations or protection.

For the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's

cave amphipod, threats to adequate water quantity and quality (PCEs 1 and 2) include alterations to the natural flow regimes affecting the aquifer recharge system and its associated springs, streams, and riparian areas. Threats to water quantity and quality include water withdrawals, impoundment, and diversions; hazardous material spills; stormwater drainage pollutants including soaps, detergents, pharmaceuticals, heavy metals, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; pesticides and herbicides associated with pathogenic organisms or invasive species; invasive species altering the surface habitat; excavation and construction surrounding the springs and in the watershed; and climate change. All of these threats are known to be ongoing at various levels in and around the Edwards Aquifer ecosystem. Examples of special management actions that would ameliorate these threats include: (1) Maintenance of sustainable groundwater use and subsurface flows; (2) use of adequate buffers for water quality protection; (3) selection of appropriate pesticides and herbicides; and (4) implementation of integrated pest management plans to manage existing invasive species as well as prevent the introduction of additional invasive species.

Climate change could potentially affect water quantity and spring flow as well as the food supply (PCEs 1, 2, and 3) for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's Cave amphipod. According to the Intergovernmental Panel on Climate Change (IPCC 2007, p. 1), "warming of the climate system is unequivocal, as is now evident from observations of increases in global averages of air and ocean

temperatures, widespread melting of snow and ice, and rising global average sea level." Regional projections suggest the southwestern United States may experience the greatest temperature increase of any area in the lower 48 States (IPCC 2007, p. 8), with warming increases in southwestern States greatest in the summer. The IPCC also predicts hot extremes, heat waves, and heavy precipitation will increase in frequency (IPCC 2007, p. 8).

The degree to which climate change will affect habitats of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's Cave amphipod is uncertain. Climate change will be a particular challenge for biodiversity in general because the interaction of additional stressors associated with climate change and current stressors may push species beyond their ability to survive (Lovejoy 2005, pp. 325–326). The synergistic implications of climate change and habitat fragmentation are the most threatening facets of climate change for biodiversity (Hannah and Lovejoy 2005, p. 4). Current climate change predictions for terrestrial areas in the Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field *et al.* 1999, pp. 1–3; Hayhoe *et al*. 2004, p. 12422; Cayan *et al.* 2005, p. 6; IPCC 2007, p. 1181). Climate change may lead to increased frequency and duration of severe storms and droughts (McLaughlin *et al*. 2002, p. 6074; Cook *et al*. 2004, p. 1015; Golladay *et al*. 2004, p. 504).

An increased risk of drought could occur if evaporation exceeds precipitation

levels in a particular region due to increased CO_2 in the atmosphere (Mace and Wade 2008, p. 658). The Edwards Aquifer is also predicted to experience additional stress from climate change that could lead to decreased recharge and low or ceased spring flows given increasing pumping demands (Loáiciga *et al.* 2000, pp. 192–193). Mace and Wade (2008, p. 662) modeled the possible effects of climate change on the San Antonio segment of the Edwards Aquifer by scaling monthly recharge from 70 to 130 percent of the historical value. The model estimated that Comal Springs would go dry for about 2 years assuming historical recharge, less than a year assuming 130 percent of historical recharge, and 3 years assuming 70 percent of historical recharge. The droughts of 2008–2009 and 2010–2011 were two of the worst short-term droughts in central Texas history, with the period from October 2010 through September 2011 being the driest 12-month period in Texas since rainfall records began (Lower Colorado River Authority (LCRA) 2011, p. 1). As a result, the effects of climate change could compound the threat of decreased water quantity due to drought.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b) we review available information pertaining to the habitat requirements of the species. In accordance with the Act and its implementing regulations at 50 CFR 424.12(e), we consider whether designating additional areas—outside those

currently occupied as well as those occupied at the time of listing—is necessary to ensure the conservation of the species. We are designating revised critical habitat in areas within the geographical area occupied by the species at the time of listing in 1997.

During our preparation for proposing revised critical habitat for these three endangered invertebrate species, we reviewed the best available scientific information including: (1) Historical and current occurrence records, (2) information pertaining to habitat features for these species, and (3) scientific information on the biology and ecology of each species. We have also reviewed a number of studies and surveys of the three listed invertebrates, including: Holsinger (1967), Bosse *et al*. (1988), Barr and Spangler (1992), Arsuffi (1993), Barr (1993), Bio-West (2001), Bio-West (2002a), Bio-West (2002b), Bio-West (2003), Bowles *et al*. (2003), Bio-West (2004), Fries *et al*. (2004), and Gibson *et al.* (2008).

Based on this review, the revised critical habitat areas described below constitute our best assessment at this time of areas that: (1) Are within the geographical range occupied by at least one of the three invertebrate species, and (2) contain features essential to the conservation of these species, which may require special management considerations or protections. All areas we are designating as revised critical habitat are occupied by at least one of the three invertebrates and contain sufficient primary constituent elements to support the life functions of the resident species. We defined the boundaries of each species based on the below criteria.

Comal Springs Dryopid Beetle

We identified both surface and subsurface components of revised critical habitat for this species, which has been found in Comal Springs and Fern Bank Springs in Comal and Hays Counties, Texas. Collections made from 2003 to 2009 further extended the known range of the beetle within the Comal Springs system to all major spring runs, seeps along the western shoreline of Landa Lake (the impounded portion of the Comal Springs system), and Landa Lake upwellings in the Spring Island area (Bio-West, Inc. 2003, p. 34; Bio-West 2004, pp. 5–6; Bio-West 2005, pp. 5–6; Bio-West 2006, p. 37; Bio-West 2009, pp. 40–43; Gibson 2012e, pers. comm.).

In addition, this species has also been collected from below the surface in Panther Canyon Well, which is located about 360 ft (110 m) away from the spring outlet of Spring Run No. 1 (Gibson *et al*. 2008, p. 76; Gibson 2012e, pers. comm.). As a result, we know that this species occurs to some extent within the Edwards Aquifer, likely within some distance from the spring outlets where it is are most commonly found. To determine the extent of the subsurface area to include as revised critical habitat we used the 360-ft (110-m) distance as a guide for the boundaries of subsurface critical habitat around spring openings known to be occupied by the species. While the species may occur in additional areas of the aquifer, we have no supporting information to determine the extent of its occurrence. However, this information from Panther Canyon Well is our

best available, and it demonstrates that the Comal Springs dryopid beetle can occur within the aquifer at least up to a distance of 360 ft (110 m) away from a spring outlet; therefore, we used this distance from spring outlets to identify the subsurface area of revised critical habitat for this species. We applied this distance to all the known occupied spring outlets to guide the boundaries of the subsurface critical habitat designation.

To determine surface area to include as revised critical habitat, we used an area within 50 ft (15 m) from spring outlets. We used this area because this distance has been found to contain food sources where plant roots interface with water flows of the spring systems. This 50-ft (15-m) distance defines the lateral extent of surface critical habitat that contains elements necessary to provide for life functions of this species with respect to roots that can penetrate into the aquifer. The 50-ft (15-m) distance was calculated from evaluations of aerial photographs and is based on tree and shrub canopies occurring in proximity to spring outlets. Extent of canopy cover reflects the approximate distances where plant root systems interface with water flows of the two spring systems.

Comal Springs Riffle Beetle

For the Comal Springs riffle beetle, we only identified surface areas as revised critical habitat because this species' habitat is primarily restricted to surface water (rather than subsurface areas, which are designated for the other two species). This habitat is

located in two impounded spring systems in Comal and Hays Counties, Texas. In Comal County, this aquatic beetle is found in various spring outlets of Comal Springs that occur within Landa Lake over a linear distance of approximately 0.9 mi (1.4 km). The species has also been found in outlets of San Marcos Springs in the upstream portion of Spring Lake in Hays County. However, populations of Comal Springs riffle beetles may exist elsewhere in Spring Lake (excluding a slough portion that lacks spring outlets), but sampling for riffle beetles at spring outlets within the lake has only been done on a limited basis. Excluding the slough portion that lacks spring outlets, the approximate linear distance of Spring Lake at its greatest length is 0.2 mi (0.3 km). Critical habitat unit boundaries for surface area were delineated using the same criteria as described above for the Comal Springs dryopid beetle; in other words, we included areas within 50 ft (15 m) from occupied spring outlets.

Peck's Cave Amphipod

We identified both surface and subsurface components of revised critical habitat for this species, which has been found in Comal Springs and Hueco Springs, both located in Comal County, Texas. The extent to which this subterranean species exists below ground away from spring outlets is unknown; however, other species within the genus *Stygobromus* are widely distributed in groundwater and cave systems (Holsinger 1972, p. 65). Like the Comal Springs dryopid beetle, the Peck's cave amphipod has been collected from Panther Canyon Well, which is located about 360 ft (110 m) away from

the spring outlet of Spring Run No. 1 in the Comal Springs complex (Barr and Spangler 1992, p. 42; Gibson *et al*. 2008, p. 76). To determine surface critical habitat, we used a 50-ft (15-m) distance from the shoreline of both Comal Springs and Hueco Springs (including several satellite springs that are located between the main outlet of Hueco Springs and the Guadalupe River) to include amphipod food sources in the root-water interfaces around spring outlets. Critical habitat unit boundaries were delineated using the same criteria as described above for the other two invertebrate species; in other words, we included areas within 50 ft (15 m) from occupied spring outlets as surface critical habitat, and we included subsurface areas within 360 ft (110 m) of occupied spring outlets.

Areas Outside the Occupied Areas

The definition of critical habitat under the Act includes areas outside the geographical area occupied by the species at the time of listing, if those areas are found to be essential to the conservation of the species. In the case of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod, the geographical area occupied by the species at the time of listing encompasses the known historic range of these species. As such, we have not found any areas outside the geographical areas occupied by these species at the time of their listing to be essential to the conservation of these species, and, therefore, we are not designating any unoccupied areas as critical habitat.

Mapping

Critical habitat unit boundaries were delineated by creating approximate areas for the units by screen-digitizing polygons (map units) using ArcMap, version 10 (Environmental Systems Research Institute, Inc.) and 2011 aerial imagery. When determining critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures on the surface that lack physical or biological features necessary for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. Subterranean critical habitat for the Comal Springs dryopid beetle and Peck's cave amphipod may extend under such structures and remains part of the critical habitat. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this final rule have been excluded by text in the rule and are not designated as revised critical habitat. Therefore, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical or biological features in the adjacent critical habitat.

Summary

We are designating revised critical habitat for lands that we have determined are occupied at the time of listing and contain sufficient elements of physical or biological features to support life-history processes essential for the conservation of the species.

Units are designated based on sufficient elements of physical or biological features being present to support the life-history processes of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. All units contain all of the identified elements of physical or biological features and support multiple life-history processes.

The critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document in the **Regulation Promulgation** section. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We will make the coordinates or plot points or both on which each map is based available to the public on *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, on our Internet site at *http://www.fws.gov/southwest/es/austintexas/*, and at the field office responsible for the designation (see **FOR FURTHER INFORMATION CONTACT**, above).

Summary of Changes From Previously Designated Critical Habitat

The areas identified in this final rule constitute a revision of the areas we designated as critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod on July 17, 2007 (72 FR 39248). The significant differences between the 2007 rule and this rule are:

(1) In the 2007 critical habitat rule for these species, we did not designate subsurface critical habitat. However, we are designating subsurface critical habitat for the Comal Springs dryopid beetle and the Peck's cave amphipod in this rule.

(2) The amount of critical habitat is increasing in this rule because: (a) We are including subsurface habitat for the Comal Springs dryopid beetle and Peck's Cave amphipod, and (b) we are including the surface area extending 50 ft (15 m) from the shoreline for the Comal Springs riffle beetle.

(3) The primary constituent elements have been modified to better incorporate and define subsurface attributes.

Final Critical Habitat Designation

We are designating four units as critical habitat for the three invertebrates. The critical habitat areas we describe below constitute our best assessment of areas that meet the definition of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. The four units are: (1) Comal Springs, (2) Hueco Springs, (3) Fern Bank Springs, and (4) San Marcos Springs. Table 1 shows the occupied units, and Tables 2, 3, and 4 provide the approximate size of each critical

habitat unit for each species.

TABLE 1–Occupancy of Comal Springs dryopid beetle, Comal Spring riffle beetle, and Peck's Cave amphipod by critical habitat units.

Unit	Occupied at Time of Listing?	Currently Occupied?	Listed Species in Unit
1. Comal Springs	Yes	Yes	Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's Cave amphipod
2. Hueco Springs	Yes	Yes	Peck's Cave amphipod
3. Fern Bank Springs	Yes	Yes	Comal Springs dryopid beetle
4. San Marcos Springs	Yes	Yes	Comal Springs riffle beetle

TABLE 2–Critical habitat units for the Comal Springs dryopid beetle. Area estimates reflect all land within critical habitat unit boundaries.

Critical Habitat Units for the Comal Springs Dryopid Beetle	Land Ownership by Type	Size of Unit in Acres (Hectares) (Subsurface Critical Habitat)	Size of Unit in Acres (Hectares) (Surface Critical Habitat)
1. Comal Springs	State, City, Private	124 (50)	38 (15)
2. Fern Bank Springs	Private	15 (6)	1.4 (0.56)
Total		139 (56)	39.4 (15.56)

Note: Area sizes may not sum due to rounding.

TABLE 3–Critical habitat units for the Comal Springs riffle beetle. Area estimates reflect all land within critical habitat unit boundaries.

Critical Habitat Units for the Comal Springs Riffle Beetle	Land Ownership by Type	Size of Unit in Acres (Hectares) (Surface Critical Habitat)
1. Comal Springs	State, City, Private	38 (15)
2. San Marcos Springs	State	16 (6)
Total		54 (22)

Note: Area sizes may not sum due to rounding.

TABLE 4–Critical habitat units for the Peck's Cave amphipod. Area estimates reflect all land within critical habitat unit boundaries.

Critical Habitat Units for the Peck's Cave Amphipod	Land Ownership by Type	Size of Unit in Acres (Hectares) (Subsurface Critical Habitat)	Size of Unit in Acres (Hectares) (Surface Habitat)
1. Comal Springs	State, City, Private	124 (50)	38 (15)
2. Hueco Springs	Private	14 (6)	0.4 (0.16)
Total		138 (56)	38.4 (15.16)

Note: Area sizes may not sum due to rounding.

We present brief descriptions of all units and reasons why they meet the definition of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod, below.

Unit 1: Comal Springs Unit

The purpose of this unit is to independently support a population of Comal

Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod in a functioning spring system with associated streams and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that provide suitable water quality, supply, and detritus (decomposed plant material).

Unit 1 contains Comal Springs and consists of 124 ac (50 ha) of subsurface critical habitat for the Comal Springs dryopid beetle and the Peck's cave amphipod (Tables 2 and 4). Unit 1 also contains 38 ac (15 ha) of surface habitat for these two species and the Comal Springs riffle beetle (Table 3). This unit was occupied at the time of listing and is still occupied by the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod (Table 1).

Portions of the Comal Springs Unit are owned by the State of Texas, City of New Braunfels, and private landowners in southern Comal County, Texas. A large portion of the unit is operated as a city park (Landa Park) with private residences and landscaped yards along the edge of the lower part of the unit. The surface water and bottom of Landa Lake are State-owned. The City of New Braunfels owns approximately 40 percent of the land surface adjacent to the lake, and private landowners own approximately 60 percent. This nearly L-shaped lake is surrounded by the City of New Braunfels. The spring system primarily occurs as a series of spring outlets that lie along the west shore of Landa Lake and within the lake itself. Practically all of the spring outlets and spring runs associated with Comal Springs occur within the upper part of the lake above the

confluence of Spring Run No. 1 to the lake.

This unit contains all of the essential physical and biological features for these species. The physical or biological features in this unit require special management or protection because of the potential for depletion of spring flow from water withdrawals, hazardous materials spills from a variety of sources in the watershed, pesticide use throughout the watershed, excavation and construction surrounding the springs and in the watershed, stormwater pollutants in the watershed, and invasive species impacts on the surface habitat.

Unit 2: Hueco Springs

The purpose of this unit is to independently support a population of Peck's cave amphipod in a functioning spring system with associated streams and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that provide suitable water quality, supply, and detritus (decomposed plant material).

Unit 2 contains Hueco Springs and consists of 14 ac (6 ha) of subsurface and 0.4 ac (0.16 ha) of surface critical habitat for the Peck's cave amphipod (Table 4). This unit was occupied at the time of listing and is still occupied by the Peck's cave amphipod (Table 1).

The Hueco Springs Unit is on private land in Comal County, Texas. The property is primarily undeveloped. The spring system has a main outlet that is located approximately 0.1 mi (0.2 km) south of the junction of Elm Creek with the Guadalupe River in Comal County. The main outlet itself lies approximately 500 ft (152 m) from the west bank of the Guadalupe River. Several satellite springs lie farther south between the main outlet and the river. The main outlet of Hueco Springs is located on undeveloped land, but the associated satellite springs occur within a privately owned campground for recreational vehicles. There is an access road to a field for parking, but no facilities or utilities.

This unit contains all of the essential physical and biological features for this species. The physical or biological features in this unit require special management because of the potential for depletion of spring flow from water withdrawals, pesticide use throughout the watershed, and excavation and construction surrounding the springs and in the watershed.

Unit 3: Fern Bank Springs

The purpose of this unit is to independently support a population of Comal Springs dryopid beetle in a functioning spring system with associated streams and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that provide suitable water quality, supply, and detritus (decomposed plant material).

Unit 3 contains Fern Bank Springs and consists of 15 ac (6 ha) of subsurface and 1.4 ac (0.56 ha) of surface critical habitat for the Comal Springs dryopid beetle (Table 2). This unit was occupied at the time of listing and is still occupied by the Comal Springs dryopid beetle (Table 1).

The Fern Bank Springs Unit is on private land in Hays County, Texas, approximately 0.2 mi (0.4 km) east of the junction of Sycamore Creek with the Blanco River. The property and surrounding area are primarily undeveloped. However, there is one rural residential home, which is a small portion of this unit. The spring system consists of a main outlet and a number of seep springs that occur at the base of a high bluff along the Blanco River.

This unit contains all of the essential physical and biological features for this species. The physical or biological features in this unit require special management because of the potential for depletion of spring flow from water withdrawals, pesticide use throughout the watershed, and excavation and construction surrounding the springs and in the watershed.

Unit 4: San Marcos Springs

The purpose of this unit is to independently support a population of Comal

Springs riffle beetle in a functioning spring system with associated streams that provide suitable water quality, supply, and detritus (decomposed plant material).

Unit 4 contains San Marcos Springs and consists of 16 ac (6 ha) of surface critical habitat for the Comal Springs riffle beetle (Table 3). This unit was occupied at the time of listing and is still occupied by the Comal Springs riffle beetle (Table 1).

This unit is located on State-owned lands in the City of San Marcos, Hays County, Texas.

This unit contains all of the essential physical and biological features for this species. The physical or biological features in this unit require special management or protection because of the potential for depletion of spring flow from water withdrawals, hazardous materials spills from a variety of sources in the watershed, pesticide use throughout the watershed, excavation and construction surrounding the springs and in the watershed, stormwater pollutants in the watershed, and invasive species impacts on the surface habitat.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species listed under the Act or result in the destruction or adverse modification of critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir. 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al*., 245 F.3d 434, 442 (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of

Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq*.) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define "reasonable and prudent alternatives" (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. As discussed above, the role of critical habitat is to support life-history needs of the species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for the three invertebrates. These activities include, but are not limited to:

(1) Actions that would change the existing flow regimes and would thereby significantly and detrimentally alter the primary constituent elements necessary for conservation of these species. Such activities could include, but are not limited to, water

withdrawal, water impoundment, and water diversions. These activities could eliminate or reduce the habitat necessary for the growth and reproduction of these species.

(2) Actions that would introduce, spread, or augment nonnative species could destroy or adversely modify the critical habitat of any listed invertebrate species. Such actions could include, but are not limited to, stocking or otherwise transporting nonnative species into critical habitat for any purpose.

(3) Actions that would alter current habitat conditions. Such actions include, but are not limited to, the release of chemical or biological pollutants into the surface water or connected groundwater at a point source or by dispersed release (nonpoint source). These activities could alter water conditions to a point that exceeds the tolerances of the Comal Springs dryopid beetle, Comal Springs riffle beetle, or Peck's cave amphipod, and results in direct or cumulative adverse effects to these individuals and their life cycles, or eliminates or reduces the habitat necessary for the growth, reproduction, and survival of these invertebrate species.

(4) Actions that would physically remove or alter the habitat used by the three invertebrates. These activities could lead to increased sedimentation and degradation in water quality to levels that exceed the tolerances of the Comal Springs dryopid beetle, Comal Springs riffle beetle, or Peck's cave amphipod. Such activities could include, but are not limited to, channelization, impoundment, road and bridge construction,

deprivation of substrate source, destruction and alteration of riparian vegetation, excessive sedimentation from road construction, vegetation removal, recreational facility development, and other watershed disturbances.

Exemptions

Application of Section 4(a)(3) of the Act

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: "The Secretary shall not designate as critical habitat any lands or other geographic areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is designation." There are no Department of Defense lands within or near the revised critical habitat designation, so no areas were exempted from the critical habitat designation under section 4(a)(3) of the Act.

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make

revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, we may exclude an area from designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise her discretion to exclude the area only if such exclusion would not result in the extinction of the species.

Exclusions Based on Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying

any particular area as critical habitat. In order to consider economic impacts, we prepared a draft economic analysis of the proposed critical habitat designation and related factors. The draft analysis, dated April 8, 2013, was made available for public review from May 2, 2013, through June 3, 2013 (78 FR 25679). Following the close of the comment period, a final analysis (dated June 19, 2013) of the potential economic effects of the designation was developed taking into consideration the public comments and any new information (Industrial Economics, Incorporated 2013b).

The intent of the final economic analysis (FEA) is to quantify the economic impacts of all potential conservation efforts for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod; some of these costs will likely be incurred regardless of whether we designate critical habitat (baseline). The economic impact of the final critical habitat designation is analyzed by comparing scenarios both "with critical habitat" and "without critical habitat." The "without critical habitat" scenario represents the baseline for the analysis, considering protections already in place for the species (e.g., under the Federal listing and other Federal, State, and local regulations). The baseline, therefore, represents the costs incurred regardless of whether critical habitat is designated. The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts are those not expected to occur absent the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical

habitat above and beyond the baseline costs; these are the costs we consider in the final designation of critical habitat. The analysis looks retrospectively at baseline impacts incurred since the species was listed, and forecasts both baseline and incremental impacts likely to occur with the designation of critical habitat.

The FEA also addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The FEA measures lost economic efficiency associated with residential and commercial development and public projects and activities, such as economic impacts on water management and transportation projects, Federal lands, small entities, and the energy industry. Decision-makers can use this information to assess whether the effects of the designation might unduly burden a particular group or economic sector. Finally, the FEA looks retrospectively at costs that have been incurred since the species' listing in 1997 (62 FR 66295; December 18, 1997), and considers those costs that may occur in the 20 years following the designation of critical habitat. Twenty years was determined to be the appropriate period for analysis because limited planning information was available for most activities to forecast activity levels for projects beyond a 20-year timeframe. The FEA quantifies economic impacts of Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod conservation efforts associated with the following categories of activity: (1) Water withdrawals, (2) construction or development projects, (3) water quality-related projects,

and (4) other miscellaneous projects with the potential to affect the physical, biological, or hydrologic conditions of proposed critical habitat.

The present value of total incremental costs of critical habitat designation was estimated to be $71,000 over the next 20 years assuming a 7 percent discount rate, or $6,300 on an annualized basis. The total present value impacts are $80,000, or $5,200 on an annualized basis, assuming a 3 percent discount rate. As highlighted in the FEA, the Comal Springs Unit is likely to be subject to the greatest incremental impacts, but these are expected to be limited to $28,000 over the next 20 years. For all three species, the economic impacts associated with conservation efforts reflect increased administrative costs to participate in section 7 consultations (Industrial Economics, Incorporated 2013b, p. A-6).

Our economic analysis did not identify any disproportionate costs that are likely to result from the designation. Consequently, the Secretary is not exerting her discretion to exclude any areas from this designation of critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod based on economic impacts.

A copy of the FEA with supporting documents may be obtained by contacting the Austin Ecological Services Field Office (see **ADDRESSES**) or by downloading from the Internet at *http://www.regulations.gov*.

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense where a national security impact might exist. In preparing this final rule, we have determined that the lands within the designation of revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod are not owned or managed by the Department of Defense or Department of Homeland Security, and, therefore, we anticipate no impact on national security. Consequently, the Secretary is not exercising her discretion to exclude any areas from this final designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors, including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any tribal issues, and consider the government-to-government relationship of the United States with tribal entities. We also consider any social impacts that might occur because of the designation.

In preparing this final rule, we have determined that there are currently no HCPs or other management plans that specifically address all of the management needs for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod, and the final designation does not include any tribal lands or trust resources. In the proposed rule we considered the exclusion of the springs covered by the Edwards Aquifer Recovery Implementation Program (EARIP) HCP. During the public comment periods for our proposed rule, we received no public comments or requests for exclusions for the EARIP HCP. This HCP only covers water withdrawal and water management activities within the southern Edwards Aquifer. This HCP aims to maintain spring flows, however, it is not a land-based HCP and the permittees do not own or control land-based activities. Consequently, the Secretary is not exercising her discretion to exclude any areas from the final designation based on other relevant impacts.

Required Determinations

Regulatory Planning and Review (Executive Orders 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq*.) as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 (5 U.S.C 801 *et seq.*), whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification

statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. In this final rule, we are certifying that the critical habitat designation for the Comal springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include such businesses as manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. To determine if potential economic impacts on these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this designation, as well as types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

Importantly, the incremental impacts of a rule must be *both* significant and substantial to prevent certification of the rule under the RFA and to require the preparation of an initial regulatory flexibility analysis. If a substantial number of small entities are affected by the critical habitat designation, but the per-entity economic impact is not significant, the Service may certify. Likewise, if the per-entity economic impact is likely to be significant, but the number of affected entities is not substantial, the Service may also certify.

The Service's current understanding of recent case law is that Federal agencies are only required to evaluate the potential impacts of rulemaking on those entities directly regulated by the rulemaking; therefore, they are not required to evaluate the potential impacts to those entities not directly regulated. The designation of critical habitat for an endangered or threatened species only has a regulatory effect where a Federal action agency is involved in a particular action that may affect the designated critical habitat. Under these circumstances, only the Federal action agency is directly regulated by the designation, and, therefore, consistent with the Service's current interpretation of RFA and recent case law, the Service may limit its evaluation of the potential impacts to those identified for Federal action agencies. Under this interpretation, there is no requirement under the RFA to evaluate the potential impacts to entities not directly regulated, such as small businesses. However, Executive Orders 12866 and 13563 direct Federal agencies to assess costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Consequently, it is the current practice of the

Service to assess to the extent practicable these potential impacts if sufficient data are available, whether or not this analysis is believed by the Service to be strictly required by the RFA. In other words, while the effects analysis required under the RFA is limited to entities directly regulated by the rulemaking, the effects analysis under the Act, consistent with the E.O. regulatory analysis requirements, can take into consideration impacts to both directly and indirectly impacted entities, where practicable and reasonable.

In conclusion, we believe that, based on our interpretation of directly regulated entities under the RFA and relevant case law, this designation of critical habitat will only directly regulate Federal agencies, which are not by definition small business entities. As such, we certify that this designation of revised critical habitat will not have a significant economic impact on a substantial number of small business entities. Therefore, a final regulatory flexibility analysis is not required. However, although not necessarily required by the RFA, in our final economic analysis for this rule we considered and evaluated the potential effects to third parties that may be involved with consultations with Federal action agencies related to this action.

Designation of critical habitat only affects activities authorized, funded, or carried out by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where the species is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they authorize, fund, or carry out that may affect the Comal

Springs dryopid beetle, Comal Springs riffle beetle, or Peck's cave amphipod. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinitiate consultation for ongoing Federal activities (see *Application of the "Adverse Modification" Standard* section).

In our final economic analysis of the critical habitat designation, we evaluated the potential economic effects on small business entities resulting from conservation actions related to the listing of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod and the designation of critical habitat. The analysis is based on the estimated impacts associated with the rulemaking as described in Chapters 1 and 2 and Appendix B of the analysis, and evaluates the potential for economic impacts related to: (1) Water withdrawals, (2) construction or development projects, (3) water quality-related projects, and (4) other miscellaneous projects with the potential to affect the physical, biological, or hydrologic conditions of proposed critical habitat.

The FEA estimated incremental impacts that have the potential to be borne by small entities are limited to the administrative costs of section 7 consultation related to reinitiation of HCPs (six consultations), Department of Defense (DOD) operations (two consultations), as well as miscellaneous construction-related activities in the Comal Springs and San Marcos Springs units that may require a section 404 permit over the next 20 years (six consultations). It was estimated that up to five developers could be included

as third parties participating in consultations associated with construction-related activities within the Comal Springs unit. The total cost of these five actions together is estimated to be $1,900 to $2,100 annually, including Federal costs. This is not a significant economic effect on a substantial number of small entities. The FEA determined that the following activities are not expected to affect small entities: (1) Consultations with DOD, (2) reinitiated consultations associated with existing HCPs, and (3) one consultation in San Marcos Springs involving the State of Texas (IEC 2013b, p. B-4).

In summary, we considered whether this designation would result in a significant economic effect on a substantial number of small entities. Based on the above reasoning and currently available information, we conclude that this rule will not result in a significant economic impact on a substantial number of small entities. Therefore, we are certifying that the designation of revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod will not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of

Energy Effects when undertaking certain actions. OMB has provided guidance for implementing this Executive Order that outlines nine outcomes that may constitute "a significant adverse effect" when compared to not taking the regulatory action under consideration. The economic analysis finds that none of these criteria is relevant to this analysis. Thus, based on information in the economic analysis, energy-related impacts associated with conservation activities for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod within critical habitat are not expected. As such, the designation of critical habitat is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq*.), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal

governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the

legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because the designation of critical habitat imposes no obligations on State or local governments. By definition, Federal agencies are not considered small entities, although the activities they fund or permit may be proposed or carried out by small entities. Consequently, we do not believe that the critical habitat designation will significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

In accordance with Executive Order 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod in a takings implications assessment. As discussed above, the designation of critical habitat affects only Federal

actions. Although private parties that receive Federal funding, assistance, or require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. The takings implications assessment concludes that this designation of revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this revised critical habitat designation with, appropriate State resource agencies in Texas. We received comments from Texas Parks and Wildlife Department and have addressed them in the **Summary of Comments and Recommendations** section of the rule. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between the national

government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical and biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist these local governments in long-range planning (because these local governments no longer have to wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and

that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating revised critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, the rule identifies the elements of physical or biological features essential to the conservation of the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq*.). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq*.) in connection with

designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)). Because Texas is not in the Tenth Circuit jurisdiction, we have not prepared an environmental assessment pursuant to NEPA.

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes. We determined that there are no tribal lands occupied by the Comal Springs dryopid beetle, Comal Springs riffle beetle, or Peck's cave amphipod at the time of listing that contain the

physical or biological features essential to conservation of the species, and no tribal lands unoccupied by the Comal Springs dryopid beetle, Comal Springs riffle beetle, or Peck's cave amphipod that are essential for the conservation of the species. Therefore, we are not designating revised critical habitat for the Comal Springs dryopid beetle, Comal Springs riffle beetle, and Peck's cave amphipod on tribal lands.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* and upon request from the Austin Ecological Services Field Office (see **ADDRESSES**).

Authors

The primary authors of this package are the staff members of the Austin Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; 4201–4245, unless otherwise noted.

2. Amend § 17.95 by:

a. In paragraph (h), revising the critical habitat entry for “Peck's cave amphipod (*Stygobromus pecki*)”; and

b. In paragraph (i), revising the critical habitat entries for “Comal Springs dryopid beetle (*Stygoparnus comalensis*)” and “Comal Springs riffle beetle (*Heterelmis comalensis*)”, to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(h) *Crustaceans*.

* * * * *

Peck's cave amphipod (*Stygobromus pecki*)

(1) Critical habitat units are depicted for this species in Comal County, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Peck's cave amphipod consist of these components:

(i) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(A) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(B) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer;

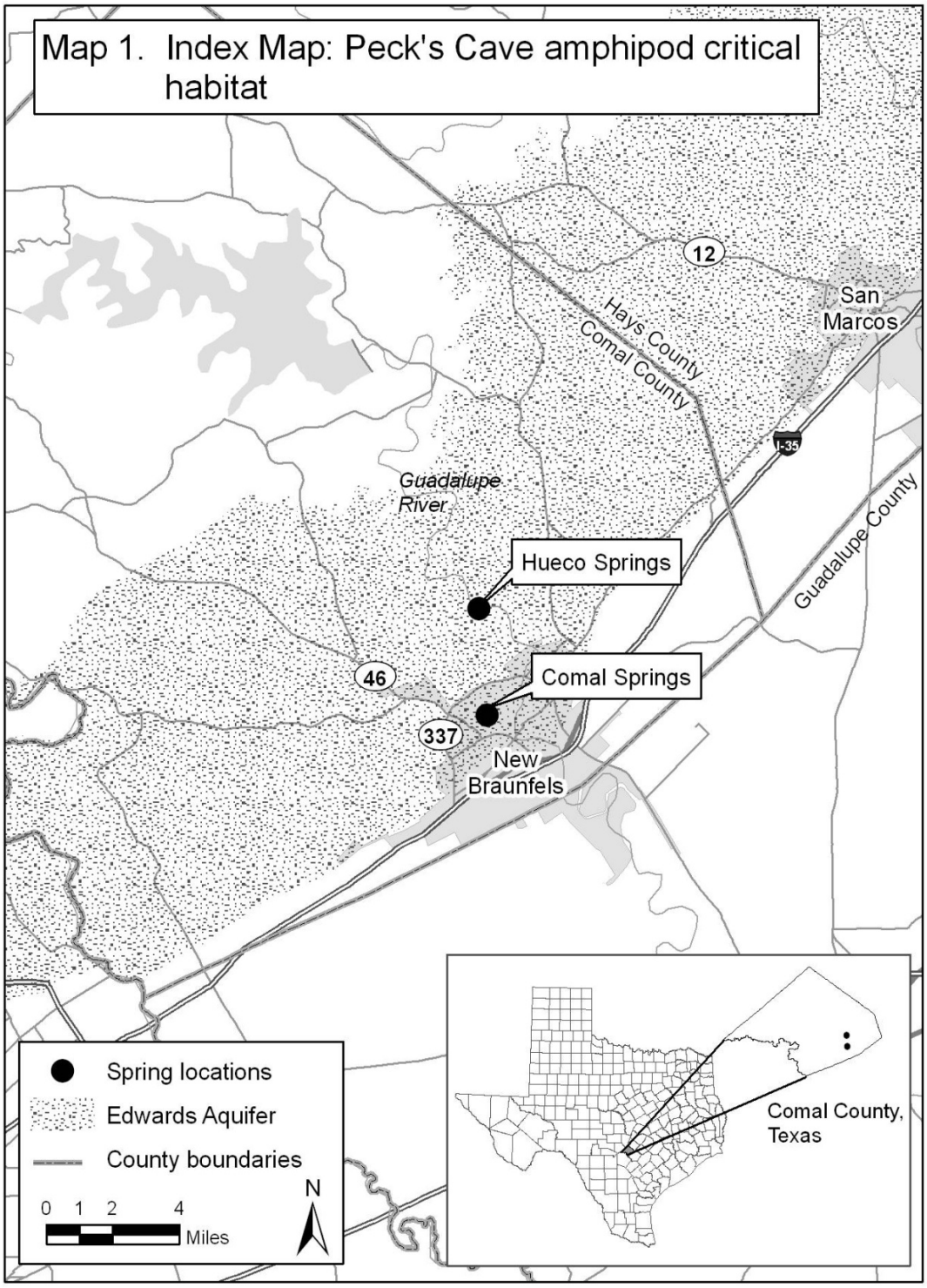
(ii) Spring system water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

(iii) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

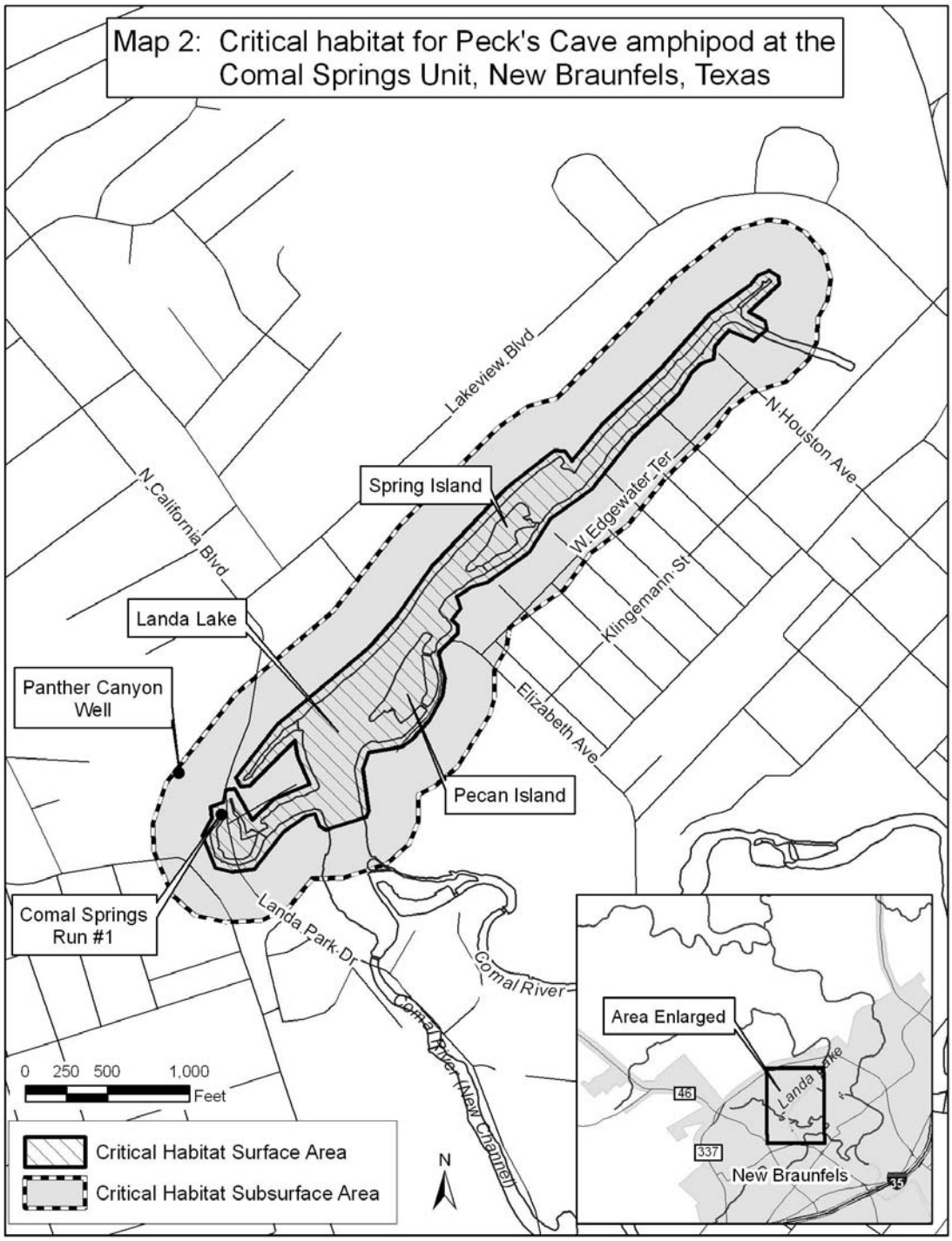
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the surface within the legal boundaries on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(4) *Critical habitat map units*. Data layers defining map units were created using geographic information systems (GIS), which included species locations, roads, property boundaries, 2011 aerial photography, and USGS 7.5′ quadrangles. Points were placed in the GIS. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/southwest/es/austintexas*/, at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, and at the field office responsible for this critical habitat designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

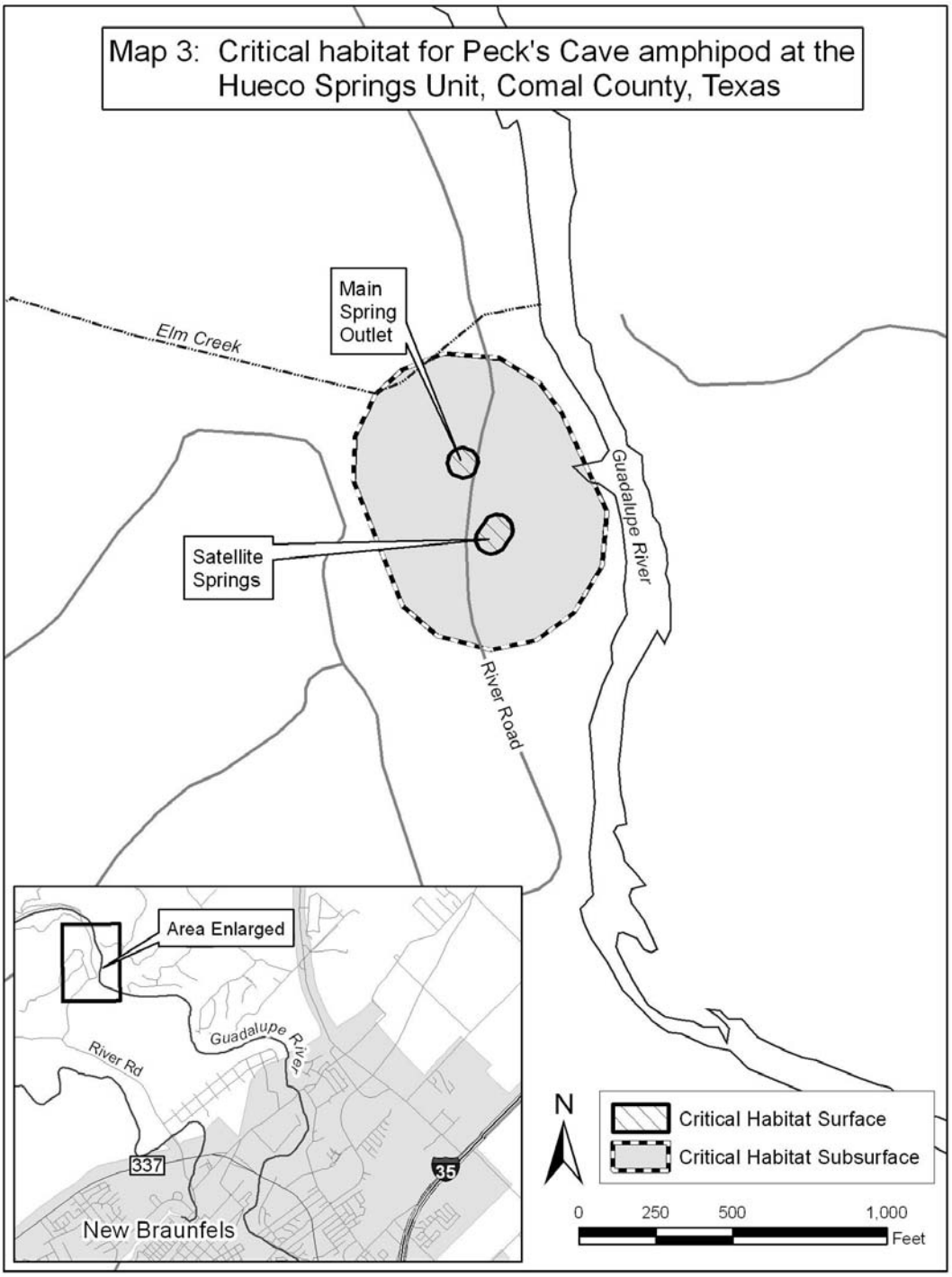
(5) The index map of the critical habitat units for the Peck's cave amphipod follows:


Map 1. Index Map: Peck's Cave amphipod critical habitat
12
San Marcos
Hays County
Comal County
I-35
Guadalupe River
Guadalupe County
Hueco Springs
46
Comal Springs
337
New Braunfels
Spring locations
Edwards Aquifer
County boundaries
0 1 2 4
Miles
N
Comal County, Texas

(6) Unit 1: Comal Springs Unit, Comal County, Texas. Map of the Comal Springs Unit follows:


Map 2: Critical habitat for Peck's Cave amphipod at the Comal Springs Unit, New Braunfels, Texas
Lakeview Blvd
N California Blvd
N Houston Ave
W Edgewater Ter
Klingemann St
Elizabeth Ave
Spring Island
Landa Lake
Panther Canyon Well
Pecan Island
Comal Springs Run #1
Landa Park Dr
Comal River
Comal River (New Channel)
0 250 500 1,000
Feet
Critical Habitat Surface Area
Critical Habitat Subsurface Area
N
Area Enlarged
46
337
New Braunfels
35

(7) Unit 2: Hueco Springs Unit, Comal County, Texas. Map of the Hueco Springs Unit follows:


Map 3: Critical habitat for Peck's Cave amphipod at the Hueco Springs Unit, Comal County, Texas
Main Spring Outlet
Elm Creek
Satellite Springs
Guadalupe River
River Road
Area Enlarged
River Rd
Guadalupe River
337
35
New Braunfels
N
Critical Habitat Surface
Critical Habitat Subsurface
0
250
500
1,000
Feet

* * * * *

(i) *Insects.*

* * * * *

Comal Springs dryopid beetle (*Stygoparnus comalensis*)

(1) Critical habitat units are depicted for this species in Comal and Hays Counties, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the Comal Springs dryopid beetle consist of these components:

(i) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(A) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(B) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer;

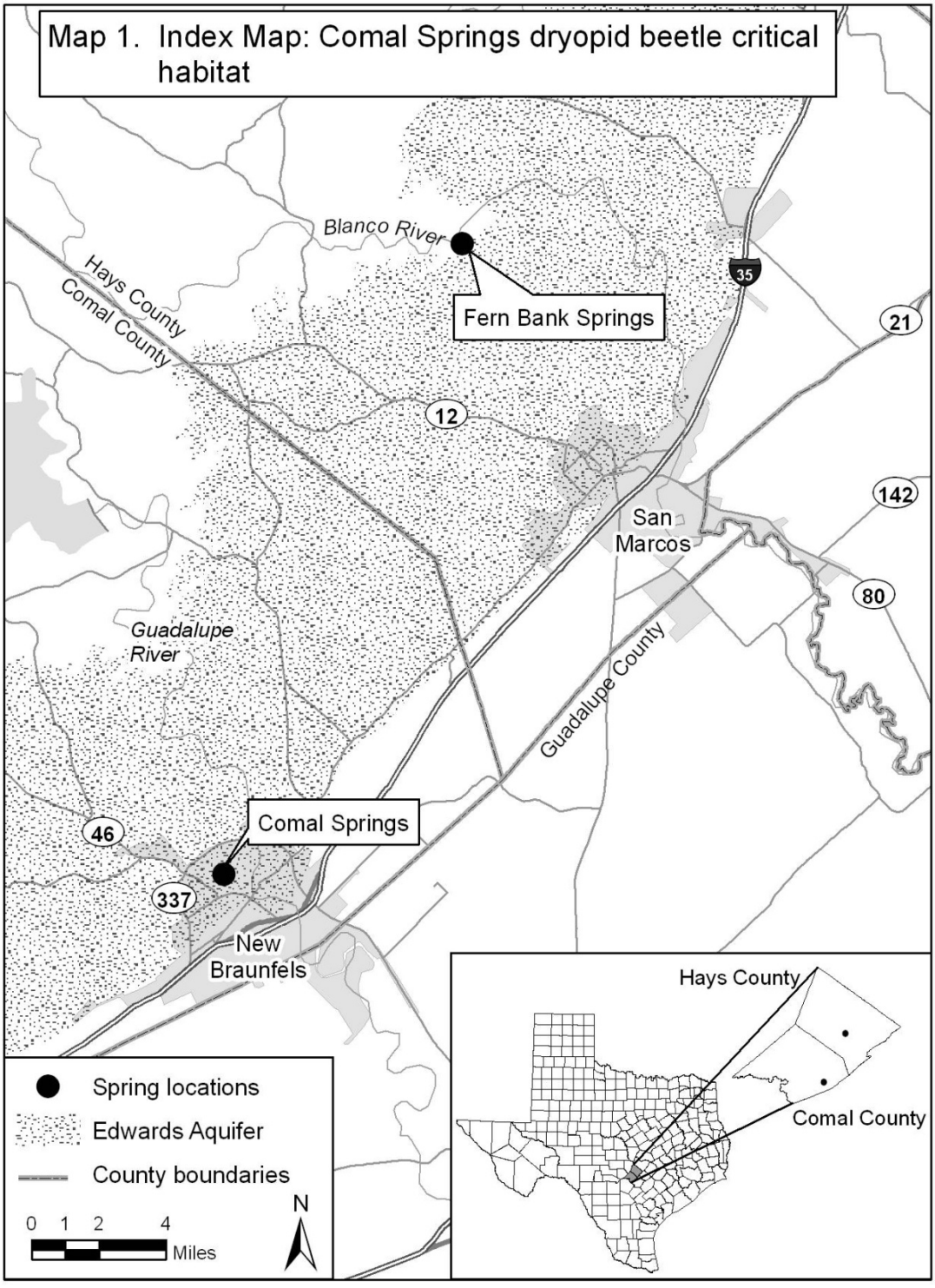
(ii) Spring system water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

(iii) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

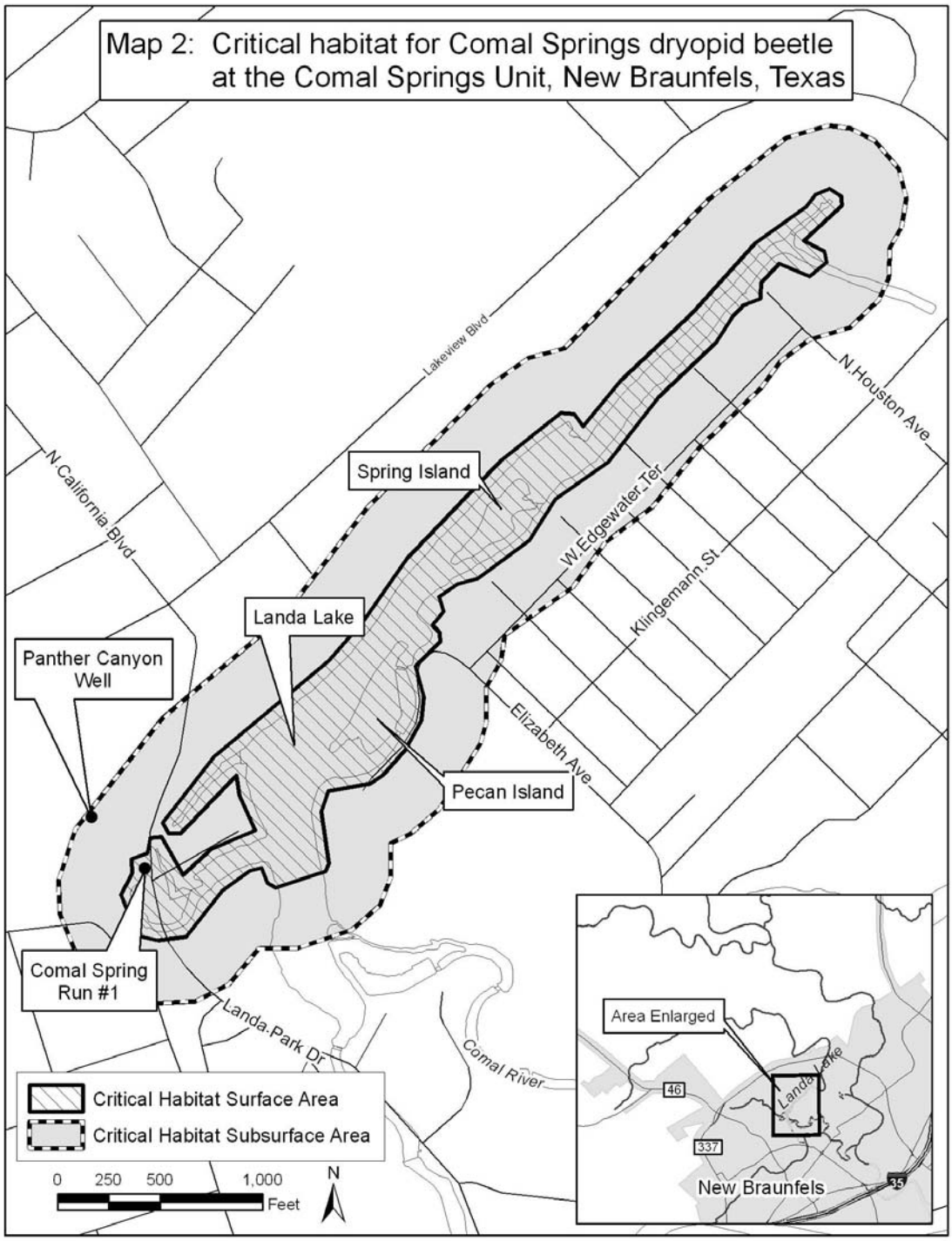
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the surface within the legal boundaries on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(4) *Critical habitat map units*. Data layers defining map units were created using geographic information systems (GIS), which included species locations, roads, property boundaries, 2011 aerial photography, and USGS 7.5′ quadrangles. Points were placed in the GIS. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/southwest/es/austintexas*/, at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, and at the field office responsible for this critical habitat designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

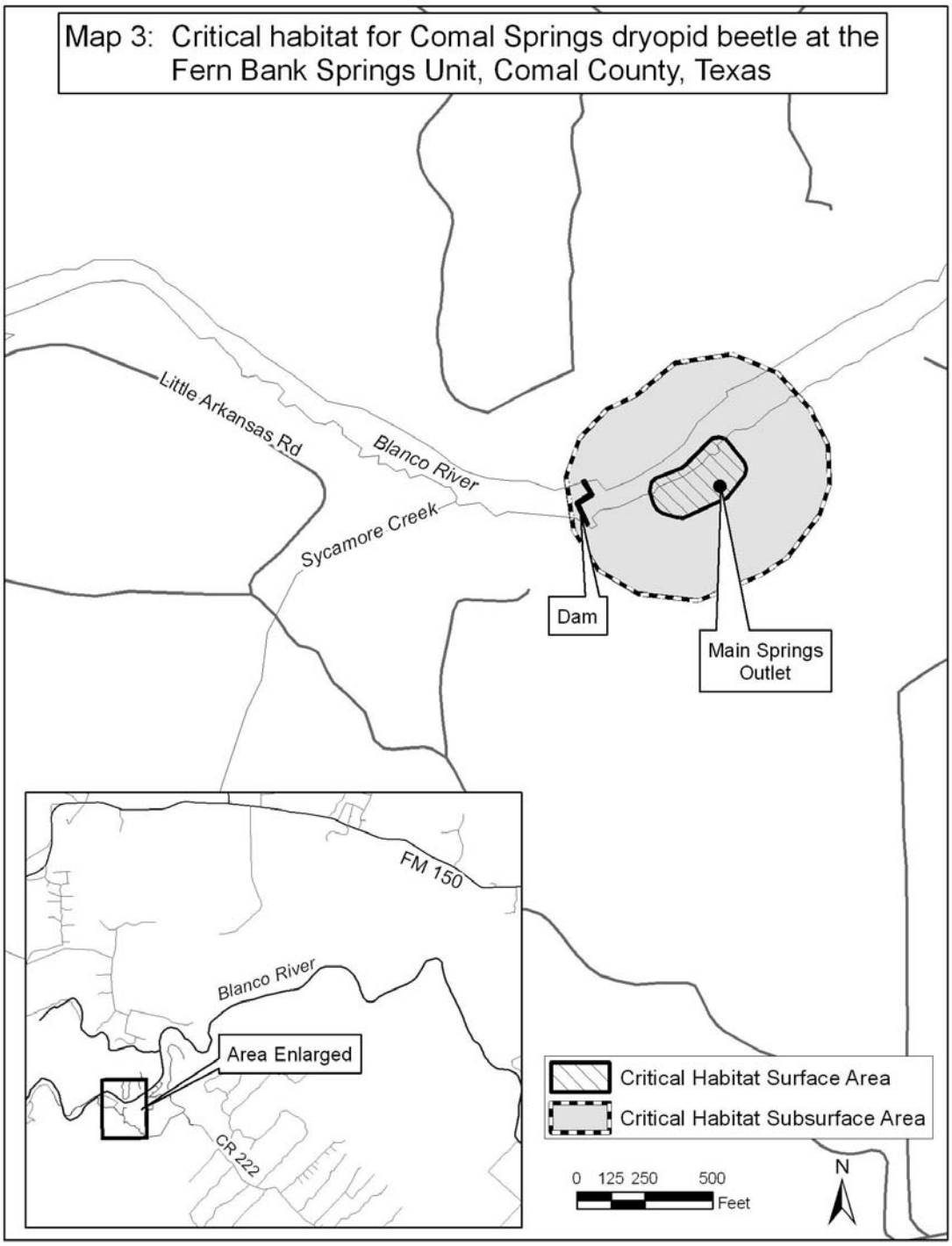
(5) The index map of the critical habitat units for the Comal Springs dryopid beetle follows:


Map 1. Index Map: Comal Springs dryopid beetle critical habitat
Blanco River
Fern Bank Springs
Hays County
Comal County
35
21
12
142
San Marcos
80
Guadalupe River
Guadalupe County
Comal Springs
46
337
New Braunfels
Spring locations
Edwards Aquifer
County boundaries
0 1 2 4
Miles
N
Hays County
Comal County

(6) Unit 1: Comal Springs Unit, Comal County, Texas. Map of the Comal Springs Unit follows:


Map 2: Critical habitat for Comal Springs dryopid beetle at the Comal Springs Unit, New Braunfels, Texas
Lakeview Blvd
N.Houston Ave
N.California Blvd
Spring Island
W.Edgewater Ter
Klingemann St
Landa Lake
Panther Canyon Well
Elizabeth Ave
Pecan Island
Comal Spring Run #1
Landa Park Dr
Comal River
Area Enlarged
Landa Lake
46
337
New Braunfels
35
Critical Habitat Surface Area
Critical Habitat Subsurface Area
0 250 500 1,000
Feet
N

(7) Unit 2: Fern Bank Springs Unit, Hays County, Texas. Map of the Fern Bank Springs Unit follows:


Map 3: Critical habitat for Comal Springs dryopid beetle at the Fern Bank Springs Unit, Comal County, Texas
Little Arkansas Rd
Blanco River
Sycamore Creek
Dam
Main Springs Outlet
FM 150
Blanco River
Area Enlarged
CR 222
Critical Habitat Surface Area
Critical Habitat Subsurface Area
0 125 250 500
Feet
N

Comal Springs riffle beetle (*Heterelmis comalensis*)

(1) Critical habitat units are depicted for this species in Comal and Hays Counties, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the Comal Springs riffle beetle consist of these components:

(i) Springs, associated streams, and underground spaces immediately inside of or adjacent to springs, seeps, and upwellings that include:

(A) High-quality water with no or minimal pollutant levels of soaps, detergents, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, and semivolatile compounds such as industrial cleaning agents; and

(B) Hydrologic regimes similar to the historical pattern of the specific sites, with continuous surface flow from the spring sites and in the subterranean aquifer;

(ii) Spring system water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

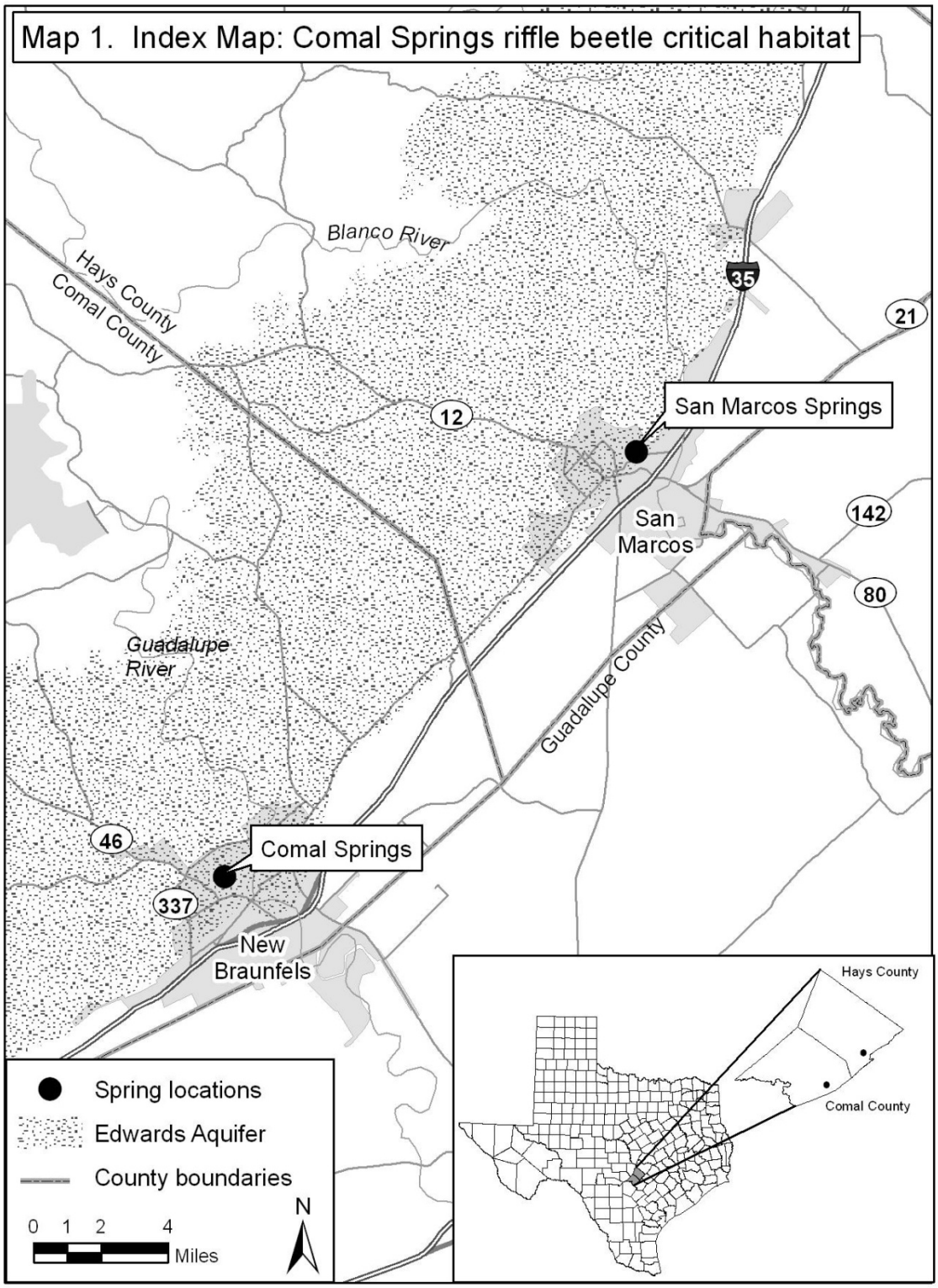
(iii) Food supply that includes, but is not limited to, detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria, other microorganisms, and decaying roots.

(3) Critical habitat does not include manmade structures (such as buildings,

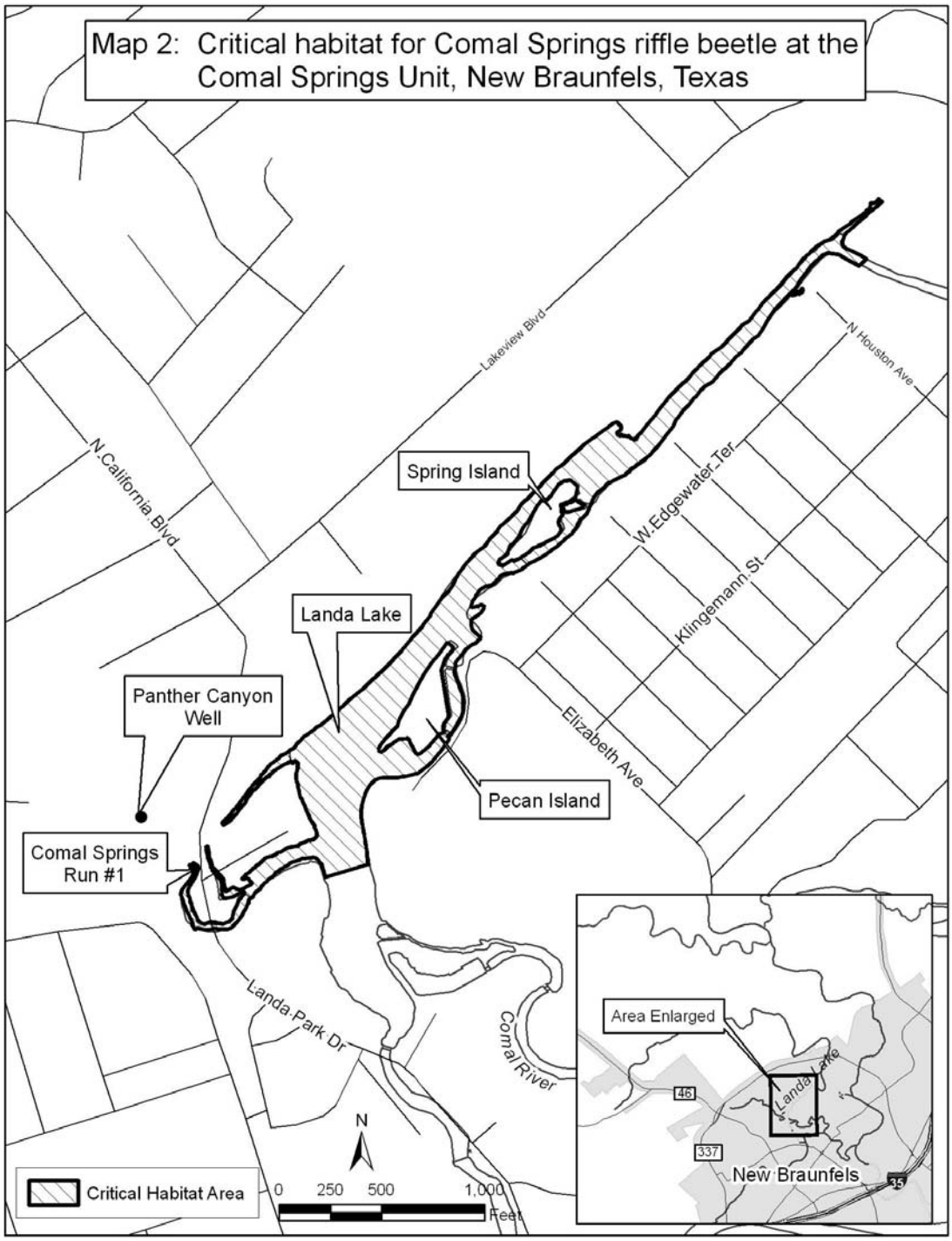
aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the surface within the legal boundaries on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(4) *Critical habitat map units*. Data layers defining map units were created using geographic information systems (GIS), which included species locations, roads, property boundaries, 2011 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's Internet site at *http://www.fws.gov/southwest/es/austintexas*/, at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2012–0082, and at the field office responsible for this critical habitat designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

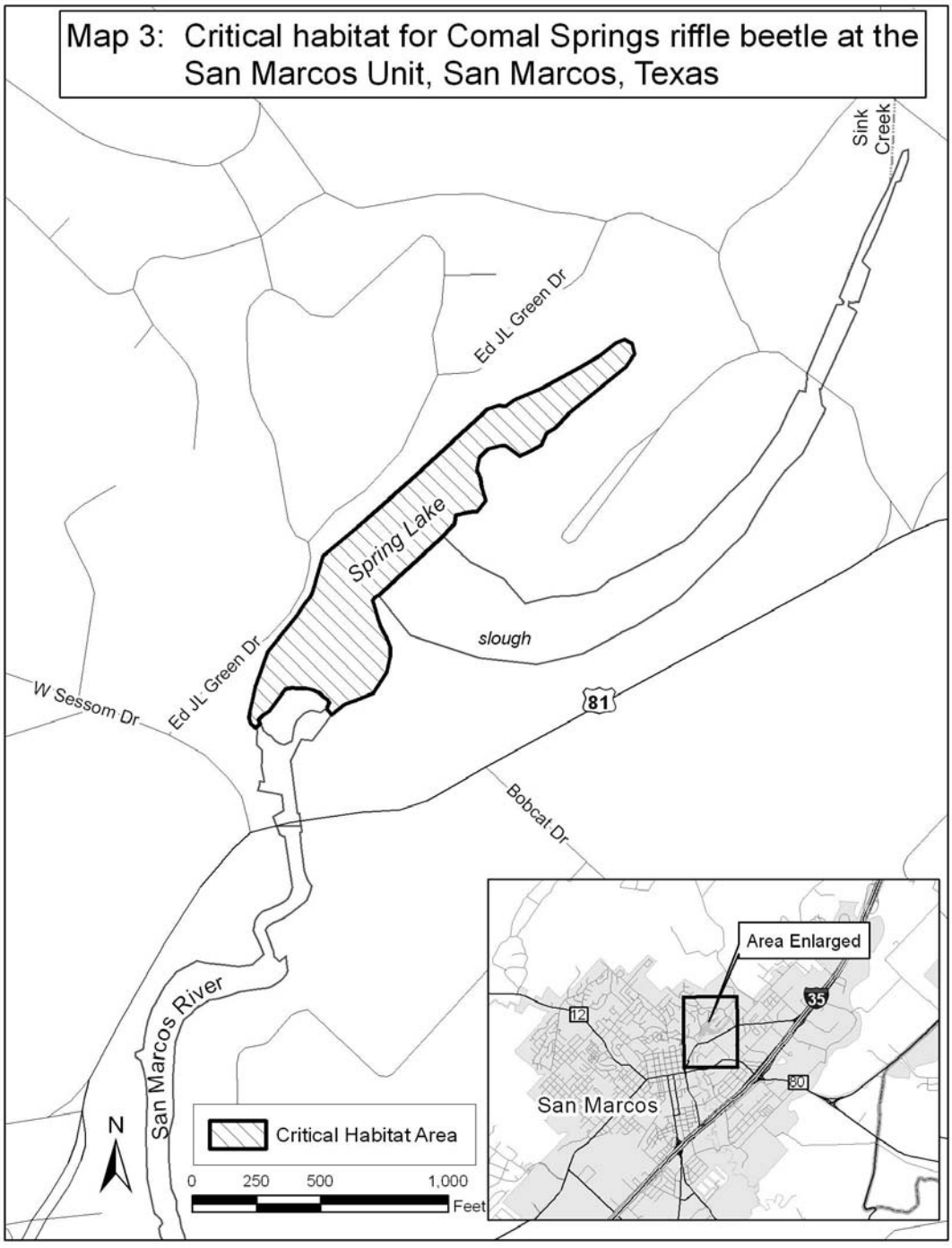
(5) The index map of critical habitat units for the Comal Springs riffle beetle follows:


Map 1. Index Map: Comal Springs riffle beetle critical habitat
Blanco River
Hays County
Comal County
35
21
12
San Marcos Springs
San Marcos
142
80
Guadalupe River
Guadalupe County
46
Comal Springs
337
New Braunfels
Spring locations
Edwards Aquifer
County boundaries
0 1 2 4
Miles
N
Hays County
Comal County

(6) Unit 1: Comal Springs Unit, Comal County, Texas. Map of the Comal Springs Unit follows:


Map 2: Critical habitat for Comal Springs riffle beetle at the Comal Springs Unit, New Braunfels, Texas
Lakeview Blvd
N Houston Ave
N California Blvd
Spring Island
W Edgewater Ter
Klingemann St
Landa Lake
Panther Canyon Well
Elizabeth Ave
Pecan Island
Comal Springs Run #1
Landa Park Dr
Comal River
Area Enlarged
Landa Lake
46
337
New Braunfels
35
N
Critical Habitat Area
0 250 500 1,000
Feet

(7) Unit 2: San Marcos Springs Unit, Hays County, Texas. Map of the San Marcos Springs Unit follows:


Map 3: Critical habitat for Comal Springs riffle beetle at the San Marcos Unit, San Marcos, Texas
Sink Creek
Ed JL Green Dr
Spring Lake
slough
Ed JL Green Dr
W Sessom Dr
81
Bobcat Dr
San Marcos River
N
Critical Habitat Area
0 250 500 1,000
Feet
Area Enlarged
35
12
80
San Marcos

* * * * *

Dated: September 27, 2013.

Rachel Jacobson,

Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.

Billing Code 4310–55–P

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